

California GARDEN

JANUARY-FEBRUARY 2003

Volume 94 No. 1

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HORTICULTURAL CALENDAR

Jan. 4 Sat.

★**SAN DIEGO FLORAL ASSOCIATION LIBRARY** open from 10:00 a.m.-3:00 p.m. Mon.-Fri., also the first and third Saturdays. Members of SDFA can check out books. (Membership \$10 a year, includes magazine.) Balboa Park, Casa del Prado, Room 105. 619/232-5762.

Jan. 4 Sat.

WALTER ANDERSEN NURSERY CLASS on Pruning Plums and Apricots at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Rose Pruning/Bare-Root Roses at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Jan. 4-5 Sat.-Sun

SAN DIEGO ROSE SOCIETY Rose Pruning Demonstration, Inez Grant Parker Memorial Rose Garden, Balboa Park. 9:00 a.m.-noon, bring gloves and pruners. Plant sale both days. Contact Steve Berry, 619/291-5755. Free.

Jan. 5 Sun.

EAST COUNTY ROSE SOCIETY Annual Pruning Demonstration. Noon to 4:00 p.m. Hands on demo with Consulting Rosarians. Bring your pruners and gloves to 11252 Horizon Hills Dr., El Cajon. Contact Bonnie, 619/334-1339. Free.

Jan. 6 Mon.

CGCI FLORAL DESIGN FORUM 2002-2003 Barbara Gillum, Master Flower Show Judge from Sacramento. Carlsbad Women's Club, 3320 Monroe St., Carlsbad. 12:30-3:00 p.m. \$8 at the door. Info: 760/749-9608.

Jan. 11 Sat.

WALTER ANDERSEN NURSERY CLASS on Bare-Root Fruit Trees, Selection and Planting at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Fruit Tree Pruning at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Jan. 11-12 Sat.-Sun.

SAN DIEGO NATURAL HISTORY MUSEUM Class on "Digitally Enhanced Landscape Photography." Instructor: Stephen Burns. Practical application on the use of Photoshop 7.0 to enhance your landscape photography. 8 a.m.-4 p.m. Members \$55, nonmembers \$65. Register at www.sdnhm.org or 619/232-3821 ext. 203.

Jan. 13 Mon.

SAN DIEGO HORTICULTURAL SOCIETY Monthly meeting "San Diego Dreaming Creating a Mediterranean Garden in Vancouver." by Thomas Hobbs, author of *Shocking Beauty*. 6:30 p.m. at the Satellite Wagering Facility of the Del Mar Fairgrounds. Jimmy Durante Blvd., Del Mar. Free.

Jan. 14 Tues. & 16 Thur.

SAN DIEGO NATURAL HISTORY MUSEUM Class on "Plants of San Diego County." Instructor Jon Rebman, Ph.D., 6:30-8:30 p.m. Members \$25, nonmembers \$35. Register at www.sdnhm.org or 619/232-3821 ext. 203.

Jan. 18 Sat.

★**SAN DIEGO FLORAL ASSOCIATION LIBRARY** will be open. See Jan. 4 for details.

Jan. 18 Sat.

WALTER ANDERSEN NURSERY CLASS on Rose Pruning at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Rose Pruning at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Jan. 18-19 Sat.-Sun.

SAN DIEGO ORCHID SOCIETY Winter Orchid Show. Sat. 12-4:00 p.m., Sun. 10:00 a.m.-4:00 p.m. Balboa Park, Casa del Prado, Room 101. Free.

Jan. 25 Sat.

S.D. COUNTY BRANCH CYMBIDIUM SOCIETY Annual Orchid Auction. 12:00-4:00 p.m. Refreshments provided. Women's Club of Carlsbad, 3320 Monroe St., Carlsbad. Call John Wade Bogren 760/212-7905 days, 619/444-3233 nights, or email wadebogren@cox.net. Free.

Jan. 25 Sat.

WALTER ANDERSEN NURSERY CLASS on Camellias at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Fruit Tree Pruning at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Jan. 26 Sun.

THE HUNTINGTON "Great Rosarians of the World: Miriam Wilkins." Garden talk, 2:30 p.m. 1150 Oxford Rd, San Marino. 626/405-3507. \$25. Advanced reservations and prepayment required.

Jan. 27 Mon.

CARLSBAD AFRICAN VIOLET SOCIETY. Monthly meeting about "Judging the Show" with Leonard Ray. Begins at 10 a.m. including auction, culture class, show and tell, short business meeting, and concludes with lunch and plant raffle at 1 p.m. You bring your lunch; coffee, tea, and desserts furnished by the club. Vista Library, 700 Eucalyptus Ave., Vista. Pauline, 760/433-4641. Free.

Feb. 1 Sat.

★**SAN DIEGO FLORAL ASSOCIATION LIBRARY** will be open. See Jan. 4 for details.

Feb. 1-2 Sat.-Sun.

SAN DIEGO CAMELLIA SOCIETY Annual Show and Sale. Entries: 8:00-10:00 a.m. Visitors: Sat. 12:00-4:00 p.m., Sun. 10:00 a.m.-4:00 p.m. Balboa Park, Casa del Prado, Room 101. Free.

(continued on page 4)



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COVER photograph by Joseph A. Betzler, pictured are *Pachycereus pringlei* (this is a cardón, not a saguaro), *Agave shawii*, and *Fouquieria columnaris* (boojum trees). Though most of these succulents are not native to our area, they will thrive in our climate, especially in the inland valleys.

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FLORA SHOWS: Show chairman contact *California Garden*, 619/232-5762 if you want the magazine sold at your show.

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Feb. 1 Sat.

WALTER ANDERSEN NURSERY CLASS on Vermiculture at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Bare-Root Fruit Trees Varieties and Care at 9:30 a.m. at 12755 Danielson Ct, Poway. 858/513-4900. Free.

Feb. 3 Mon.

CGCI FLORAL DESIGN FORUM 2002-2003 "Surprise! Local Creative Designers." Carlsbad Women's Club, 3320 Monroe St., Carlsbad. 12:30-3:00 p.m. \$8 at the door. Info: 760/749-9608.

Feb. 8 Sat.

WALTER ANDERSEN NURSERY CLASS on Xeriscaping at 9 a.m. 3642 Enterprise St., San Diego. 619/224-8271. Or Garden Railroad: Bringing it All Together at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Feb. 8-9 Sat.-Sun.

SAN DIEGO CAMELLIA SOCIETY Exhibit, Wild Animal Park. 10:00 a.m.-4:00 p.m. both days. Free with general admission.

Feb. 8-9 Sat.-Sun.

THE HUNTINGTON 31st Annual Camellia Show. Sat. 1-4:30 p.m., Sun. 10:30 a.m.-4:30 p.m. Friends' Hall, 1150 Oxford Rd, San Marino. 626/405-2100. General admission.

Feb. 10 Mon.

SAN DIEGO HORTICULTURAL SOCIETY. Monthly meeting "Bromeliads: From the Rain Forest to the Retail Outlet" by Jeffrey Kent of Kents Bromeliads Nursery in Vista. 6:30 p.m. at the Satellite Wagering Facility of the Del Mar Fairgrounds. Jimmy Durante Blvd., Del Mar. Free.

Feb. 15 Sat.

★SAN DIEGO FLORAL ASSOCIATION LIBRARY will be open. See Jan. 4 for details.

Feb. 15 Sat.

WALTER ANDERSEN NURSERY CLASS on Cymbidiums at 9 a.m. at 3642 Enterprise St., San Diego. 619/224-8271. Or Spring Bulbs at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Feb. 15 Sat.

UCI ARBORETUM'S Annual Winter Orchid Show, "Prelude to Spring." 10:00 a.m.-3:00 p.m. Showcasing their outstanding cymbidium collection and much more. Corner of Campus Drive and Jamboree Road on the UCI North Campus, Irvine. 949/824-5833. \$2 admission. Children under 12 and members of the Friends of the UCI Arboretum admitted free.

Feb. 16 Sun.

SAN DIEGO MYCOLOGICAL SOCIETY 5th Annual Mushroom Fair including displays of local mushrooms and fungi, cooking demos, horticulture instruction, and book sales. 11:00 a.m.-3:00 p.m.

Balboa Park, Casa del Prado, Room 101. Free.

Feb. 18 Tues.

★SAN DIEGO FLORAL ASSOCIATION

GENERAL MEETING featuring local author and lecturer Eva Shaw Ph.D., "Garden Therapy- It's Nature's Health Plan." Balboa Park, Casa del Prado, Room 101. 7 p.m. Free. Catered dinner precedes the meeting at 6 p.m. Advanced reservations before Feb. 13 along with \$11 payment required for dinner. 619/232-5762.

Feb. 22 Sat.

WALTER ANDERSEN NURSERY CLASS on Native Plants at 9 a.m. at 3642 Enterprise St., San Diego. 619/224-8271. Or Orchids (with special guest speakers) at 9:30 a.m. at 12755 Danielson Court, Poway. 858/513-4900. Free.

Feb. 24 Mon.

CARLSBAD AFRICAN VIOLET SOCIETY.

Monthly meeting about "Slide Show of Past National and Council Shows" with Betty Roberson. Begins at 10 a.m. including auction, culture class, show and tell, short business meeting, and concludes with lunch and plant raffle at 1 p.m. You bring your lunch; coffee, tea, and desserts furnished by the club. Vista Library, 700 Eucalyptus Ave., Vista. Pauline, 760/433-4641. Free.

Feb. 28-Mar 2 Sun.

CGCI, PALOMAR DISTRICT STANDARD

FLOWER SHOW "Spring Into San Diego." Part of the 18th Annual Spring Home/Garden Show "All About Gardens" at Del Mar Fairgrounds. Friday 12-8 p.m., Saturday 10 a.m.-8 p.m., Sunday 10 a.m.-5 p.m. Admission \$10 (Children 12 and under free). 760/727-7614.

Mar. 1-2 Sat.-Sun.

OHARA SCHOOL OF IKEBANA SHOW.

11:00 a.m.-4:30 p.m. both days. Demonstrations at 11:30, 1:00, and 2:30 each day. Balboa Park, Casa del Prado, Room 101. Free.

BALBOA PARK

SAN DIEGO JAPANESE FRIENDSHIP GARDEN

Open Tues. thru Sun. 10:00 a.m.-4:00 p.m. Docent tours with reservations. Fee. 619/232-2721.

OFFSHOOT TOURS Ranger guided. Various topics.

Saturdays 10:00 a.m. Meet at Visitors Center in Plaza de Panama. 619/235-1121. Free.

INTERPRETIVE WALKS Ranger guided. History

oriented topics. Meet at Visitors Center in Plaza de Panama. Tuesdays and Sundays at 1:00 p.m. Free.

ONGOING EVENTS

SAN DIEGO NATURAL HISTORY MUSEUM

Canyoneer Walks. Sat-Sun. Sept-June. 619/232-3821 ext 203 or www.sdnhm.org for locations, times and directions. Free.

SAN DIEGO ZOO ORCHID ODYSSEY.

Third Friday of every month from 10:00 a.m.-2:00 p.m., showcasing orchids from Papua New Guinea, Central and South America, Africa, Thailand, Australia, China, and Vietnam. Free with Zoo admission.

QUAIL BOTANICAL GARDENS Garden Tours & Events. 9:00 a.m.-5:00 p.m. 230 Quail Gardens Drive, Encinitas. 760/436-3036 or (www.qbgardens.com). General admission.

BLUE SKY ECOLOGICAL RESERVE Walks. Poway. Sat. & Sun. 9:00 a.m. 858/679-5469.

WALKABOUT INTERNATIONAL Local Guided Walks. Newsletter. 619/231-SHOE. Free.

CUYAMACA COLLEGE Water Conservation Garden Landscape Seminar on 2nd Saturday of each month. 9:30 a.m. Docent tours Sat. 10:30 a.m. and Sun. 1:30 p.m. 619/660-0614. Free.

THE HUNTINGTON is open Tuesday through Friday noon to 4:30 p.m., Saturday and Sunday 10:30 a.m. to 4:30 p.m. Closed Monday and most holidays. \$10 adults, \$8.50 seniors, \$7 students (12-18), under 12 and members free. Group rate (10+) \$8. First Thursday of each month free to all visitors. 626/405-2100 or www.huntington.org.

GARDENING CLASSES

BETTY NEWTON

12-WEEK COURSE

Landscaping Trees, Shrubs and Flowers. Covering stone fruit tree structure, pruning, and recommended varieties through small area groundcovers and roses in landscaping.

Beginning Jan. 8 Weds. A.M.

Wednesday 8:50 a.m.-Noon, Grossmont Baptist Church Fellowship Hall, at Mildens and Waters Streets, La Mesa. 619/644-3555. \$26.

Beginning Jan. 9 Thurs. A.M.

Thursday 8:50 a.m.-Noon. Foothills Adult Center, Room 12, 1550 Melody Lane, El Cajon. 619/401-4122. \$26.

JOYCE GEMMELL

6-WEEK COURSE

Fruit Tree, Vine, and Berry, Tree Planting, Pruning, Grape and Cane Berries.

Beginning Jan. 7 Tues. P.M.

Tuesday 6:00-9:10 p.m., Foothills Adult Center, Room 12, 1550 Melody Lane, El Cajon. 619/401-4122. \$15.

Beginning Jan. 10 Fri. A.M.

Friday 9:00 a.m.-12:10 p.m., Foothills Adult Center, Room 12, 1550 Melody Lane, El Cajon. 619/401-4122. \$15.

Summer Vegetable Gardening.

Beginning Feb. 18 Tues. P.M.

Tuesday 6:00-9:10 p.m., Foothills Adult Center, Room 12, 1550 Melody Lane, El Cajon. 619/401-4122. \$15.

Growing a kitchen salad garden in the backyard, on the patio, or in a container.

Beginning Jan. 8 Wed. Afternoon

Wednesday 1:00-3:00 p.m., La Mesa Senior Adult Center, 8450 La Mesa Blvd., La Mesa. 619/464-0505. Free to older adults.

CONNIE BECK

12-WEEK COURSE

Home Landscaping I - Basics of Organic

Gardening: Create a garden with less work and more fun, less water and more color, less cost and more success.

Beginning Jan. 8 Wed. P.M.

Wednesday 6:30-9:30 p.m., Santana Adult Center, Room 1305, 9915 Magnolia, Santee. 619/749-4059 or 619/596-3657. \$24.

Deadline for submission to

HORTICULTURAL CALENDAR for MARCH-

APRIL issue is JANUARY 15. SAN DIEGO

FLORAL ASSOCIATION is not responsible for changes that are submitted late by the organizations.

ERRATA

November-December 2002 Issue

Page 172, end of page, photo credit, last line should read Photograph 2 by F.X. Williams

Page 181, line 13, *for* Long day or intermediate day onion seeds, *read* Long day onion seeds will not bulb in San Diego.

line 20, *for* 'Granox', *read* 'Granex'

line 24, *for* 16-0-0, *read* 16-20-0

line 28, *for* Short day, *read* Long day second column, discussing UC publications, *for* <http://ipm.ucdavis.edu/PDF/PMG/index.html>, *a better choice for home gardeners would be* <http://www.ipm.ucdavis.edu/PMG/selectnewpest/home.html> *as the first is intended for commercial growers.*

Concerning the above article about onions, on page 181, one could infer that some of the incorrect statements were made by Joyce Gemmell. This is not the case. Our apologies to her.

Gleanings . . .

gathered by barbara jones

PINE BARK BEETLE . . .

Trees weakened by drought are more susceptible to disease and pests. We have just finished a three year drought session. At the present time, the problem is severe in our back country forests — there are infestations of pine bark beetles. Not only are the beetles killing the trees, but the dead trees are making the forest fire situation worse.

The main problem beetle is the California five-spined Ips, which flies to a tree, burrows under the bark, and lays eggs. It puts out a pheromone to alert other beetles that soon follow. Thousands of beetles occupy the tree and eventually kill it.

The really bad news is that the beetles have now moved into Balboa Park. Infected trees start dying from the top and by the time it is noticed, it is too late to save the tree. One of the main beauties of Balboa Park is its lush forest.

We need the winter rains so the plants, all of them, will not be so stressed and subject to diseases and pest infestation. The Park gardeners are doing all they can to stop this latest infestation.

GREENHEAT . . .

Greenheat is the name of a new fuel that is being used in Britain to heat home gardeners' glasshouses. We are spoiled in our area — about the only home gardeners who use a glasshouse are those who specialize in growing orchids. Usually a heat light bulb or two gives off enough

heat to protect the delicate plants for our few frosty nights.

In Britain, most of the home gardeners use paraffin to heat their glasshouses. (No, this fuel is not those quarter-pound blocks of wax we melt to cover newly made jelly. It is a liquid wax fuel that is burned in a special burner.) This produces toxic fumes that not only smell terrible but are harmful to the environment.

This new fuel, Greenheat, is an easy to use gel, has no toxic ingredients, and is organic. It is made from sugar cane. (It also can be used for cooking.) It is carbon dioxide neutral. That means that the amount of carbon dioxide it emits when burning is equivalent to the amount utilized during the photosynthesis process while it is growing.

It appears that there is progress on finding new fuels to replace fossil fuels. In parts of America, ethanol, made from corn, is widely used as a fuel for automobiles.

BABY CARROTS . . .

Sold by the bagful, baby carrots have become a popular munchie. But most of the ones for sale are not what they seem. They are not baby carrots, they are baby-cut carrots.

Full size carrots are scrubbed, peeled, and cut into small sections. These small sections are mechanically shaped into "baby carrots." The carrots are not the usual ones; they are special varieties that have been developed to grow in an almost cylindrical

form so that they can be cut into narrow, almost uniform, pieces.

To make the baby carrots more eye-appealing the ends and edges are rounded by tumbling the cut pieces in a steel cage with a rough lining. This wears down the sharp edges.

If you desire to grow a carrot that is the same size top-to-bottom, plant them close together. (A carrot naturally grows with a wider top and a tapering tip.) Even for home dipping use, the cut pieces will be more symmetrical. Gourmets claim that traditional carrots that are grown naturally, not close together, taste better.

We don't have an exact date, but the "baby carrot" came on the market in the 80s and immediately became popular. Even though they are more expensive than regular carrots, the convenience makes them worth the extra money.

Statistics show that Americans eat an average of 10.6 pounds of carrots per year. (Fresh tomato consumption is 18 pounds.)

CELERY . . .

Have you ever had limp, spongy celery? It's not good. Most of us purchase celery. To keep it crisp it should be hydrated. (You hydrate flowers by immersing them in deep water before arranging.) When you get the stalk home, cut a thin slice off the bottom, and immerse it for about an hour in deep ice water. Then shake it and place the whole stock in a plastic bag in the fridge.

NATIVE SUCCULENT DIVERSITY AND GARDENING, PART II

BY JON P. REBMAN AND JOSEPH A. BETZLER

[Part I, printed in the November-December 2002 California Garden, dealt with the plants of San Diego County and regional diversity. The authors declared that the public needs to take action in respect to water conservation. It makes good sense to promote more xerophyte gardening. Native plants of our region, which includes Lower California and San Diego County, are a natural choice due to their adaptive abilities to survive and even to thrive in the dry conditions of the area.]

Succulent Diversity in Lower California, Mexico

The arid portions of Lower California illustrate this diversity. It is estimated that this region has a total of 301 taxa (261 species) in 27 different vascular plant families that can be regarded as leaf or stem succulents (Rebman 2001). Some of the plant families with succulent members in the region include: Aizoaceae, Anacardiaceae, Asteraceae, Bromeliaceae, Burseraceae, Cucurbitaceae, Fouquieriaceae, Nolinaceae, Nyctaginaceae, Solanaceae, and Vitaceae. However, the highest diversity of succulents in Lower California can be found in five plant families: Cactaceae (129 taxa),

Crassulaceae (38 taxa), Agavaceae (26 taxa), Portulacaceae (14 taxa), and Euphorbiaceae (13 taxa).

Furthermore, almost 65% of all the known succulents in Lower California can be found in three families: Cactaceae, Crassulaceae, and Agavaceae. In these three most diverse succulent families, the percentage of taxa endemic to Lower California is also very high. The Agavaceae have the highest percentage of endemism among these families, with 84.6 % or 22 endemic plant taxa. The Cactaceae have 92 endemic taxa (71.3 % endemism) and the Crassulaceae have 26 endemic taxa (68.4 %). A few endemic, succulent genera also can be found in the Lower California region, including: *Pachycormus* (Anacardiaceae); *Baeriopsis* and *Coulterella* (Asteraceae); *Bartschella*, *Cochemia*, *Morangaya*, \times *Myrtgerocactus*, and \times *Pachgerocactus* (Cactaceae).

Most of the succulent plant species in Lower California can be divided into either stem or leaf succulents. However, some of these species, such as *Cistanthe guadalupensis*, have both succulent leaves and stems and can be put into both categories. In respect to the diversity of stem versus leaf succulents in the region, it is estimated that there are 184 taxa of stem succulents and 117 leaf succulents.

Stem Succulents of Lower California

The most diverse group of stem succulents in Lower California is the cactus family. The Cactaceae in this region are represented by 15 genera, 104 species, and 129 total taxa in the subfamily Cactoideae (11 genera, 71 species) and Opuntioideae (4 genera, 33 species). Of these, 71 species and 92 taxa are endemic to the region, which is a 68.3% endemism rate for species and 71.3% for total taxa. Two cactus genera (*Morangaya* and *Cochemia*) are thought to be endemic to Lower California. *Morangaya* is a monotypic genus consisting only of *M. pensilis*, which is restricted to the mountains of the Cape Region of BCS. This genus is sometimes lumped into *Echinocereus*, but various types of evidence support its recognition as a separate genus (Moran,



This *Agave shawii* variety has huge single heads. The plant was raised from seed and is about 6 feet in diameter; it will take a few more years before it flowers.

1977). *Cochemia* is composed of five endemic species; three are found on the peninsula in the central and southern portions, and two are island endemics. Some authors (Hunt, 1987) recognize this group as a subgenus of *Mammillaria*, but more systematic investigation is needed in order to determine accurately its taxonomic level. Various other genera, such as *Bartschella* (usually included in *Mammillaria*) and *Machaerocereus* (now combined into *Stenocereus*) were also considered endemic, or nearly restricted to, Lower California.

The most speciose genera in the Cactaceae of Lower California are *Mammillaria* (32 species), *Cylindropuntia* (19 species), *Opuntia* (12 species), *Ferocactus* (11 species), and *Echinocereus* (10 species). The genus *Opuntia* sensu lato (including *Cylindropuntia* and *Grusonia*) was considered to have the highest number of overall taxa (41) before it was split, but *Mammillaria* has always led in endemism with 29 endemic species and 32 endemic total taxa.

The Euphorbiaceae are represented with over 100 species in 18 genera in Lower California. Some of these species are quite succulent, especially in *Euphorbia* subgenus *Agaloma*; *Euphorbia californica*, *E. hindsiana*, *E. misera*, and *E. xantii*; plus *E. ceroderma*, which was not listed in Wiggins (1980) but is a very attractive succulent native to the peninsula. In the genus *Jatropha* there are seven species in the region, four of them endemic. Other succulent members of the spurge family found in the region include slipper plant/candelilla (*Pedilanthus macrocarpus*) and pimentilla (*Adelia virgata*), which superficially resembles the ocotillo (*Fouquieria splendens*).

A wide-ranging plant family well known for its many succulent members is the Asclepiadaceae (milkweed family). Although not very rich in succulents in Lower California, the family's diversity is represented with seven genera and 25 species, of which seven are endemic. The most succulent milkweeds in the area are in the genus *Asclepias* and include: *A. subulata*, *A. albicans*, and *A. masonii*.

The Burseraceae (torchwood family) constitute another popular family among succulent enthusiasts and are well represented in Lower California. Although there is taxonomic research currently being conducted in order to better understand its local members, it is estimated that the Burseraceae has eight species, including one new species not yet named from southeast of La Paz. Other sarcocaulescent or elephant tree-type species native to Lower California can be found in the Anacardiaceae or cashew family and include copalquín (*Pachycormus discolor*) and ciruelo (*Cyrtocarpa edulis*).

The Fouquieriaceae have four species native to



This *Dudleya* in Baja California shows how hardy these plants can be. This specimen is growing in a rock fissure with little or no soil.

Lower California. The ocotillo (*Fouquieria splendens*) is common in the northern half of the peninsula ranging to its southernmost population in the Sierra Guadalupe of BCS. The palo adán (*F. diguetii*) is more common in the southern half of the region but frequently dominates the vegetation in some parts of the Vizcaino Desert in the central part of the peninsula. A less known member of this family is *F. burragei*, which looks almost intermediate in habit between the ocotillo and palo adán but has white to pink colored flowers. It has a rather restricted distribution, being found only along the Gulf of California coast from the vicinity of Mulegé to La Paz and on a few southern Gulf islands. The most charismatic species in this family and perhaps of the entire peninsula is the boojum tree or cirio (*F. columnaris*), which is common in the desert areas from El Rosario to Volcán las Tres Vírgenes. This species often looks like a large, upside-down, albino carrot and it forms forests in the southern half of BC.

The Cucurbitaceae (melon/squash family) have

many members with succulent underground stems (tubers) or fattened lower stems (caudiciforms). One such caudiciform species in Lower California is *Ibervillea sonorae*, found commonly in the southern peninsula and on various Gulf islands. Other native species in the morning glory family (Convolvulaceae) from Lower California can be grown in cultivation so that the normally underground tuber is exposed and obvious above the soil.

Leaf Succulents of Lower California

The most diverse group of leaf succulents in Lower California is the Crassulaceae (stonecrop family). This family is represented with three genera, 36 species, and 38 total taxa. The genus *Dudleya* is the most regionally diverse of the family, with approximately 32 species and various interspecific hybrids. Including varieties and subspecies, there are 34 taxa of dudleyas found in Lower California and 26 of these are endemic. The stonecrop genera *Crassula* and *Sedum*, each with two species, are also represented locally.

The second most diverse group of leaf succulents in Lower California is the Agavaceae with 18 species and 26 taxa, of which 22 are endemic. This family is represented with three genera, *Agave*, *Hesperoyucca*, and *Yucca*. Both century plants/mescalos/magueys (*Agave* spp.) and soaptrees/datils (*Yucca* spp.) are so common in some parts of the peninsula that they are obvious dominants in the vegetation. The closely allied Nolinaceae have four species in the region, all in the genus *Nolina*. In the USA, *Nolina* species are usually low-growing and called bear-grasses, but in Lower California most of the species are tree-like and are locally referred to as "sotol."

In the Bromeliaceae there are two succulent bromeliads that grow in rocky areas of the southern mountain ranges and Cape Region of BCS, *Hechtia gayii* and *H. montana*. Interestingly, *H. montana* seems to be a "window-leaf" plant, since the upper epidermis of its succulent leaf is transparent and the chlorophyllous tissue is on the lower side of the leaf. This apparently allows light to penetrate the upper part of the leaf, filter through the succulent portion, and then be captured by photosynthesis on the inside of the leaf. It is not known how many other succulent bromeliads also function in this manner and what advantage it confers to such aboveground rosette plants as these.

The Portulacaceae have approximately 14 succulent, or at least fleshy-leaved, species in BC and BCS. These include *Calandrinia*, *Talinum*, and various *Portulaca* species. The most succulent member of this family found locally is *Cistanthe guadalupensis*, which is both a stem and leaf succulent restricted to Guadalupe Island off the

west coast of central Lower California.

The well-known succulent family Aizoaceae is also represented in Lower California but mostly by such exotics as *Mesembryanthemum* and *Carpobrotus*. However, the native species of *Sesuvium* can commonly be found in coastal areas of the southern peninsula.

The Sunflower family (Asteraceae) has a few succulent members in Lower California as well. Genera with at least one leaf-succulent species include *Coreopsis*, *Coulterella*, *Hofmeisteria*, *Porophyllum*, *Senecio*, and the endemic genus, *Baeriopsis*, from Guadalupe Island. Both *Baeriopsis* and *Coulterella* are monotypic genera that are considered endemic to the region. □

Joseph A. Betzler, in 1983 and again in 1985, was elected president of the San Diego Cactus and Succulent Society. He is also a director of the Cactus and Succulent Society of America, where he is the chair for the Computer Technology Committee. Currently he can be reached at Botanical Conservation Center, CRES, Zoological Society of San Diego, 15500 San Pasqual Valley Road, Escondido CA 92027-7017
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Photographs by Joseph A. Betzler

Jon P. Rebman's doctoral research at Arizona State University on the systematics of the chollas of Lower California (both states) included extensive fieldwork conducted under a Fulbright Fellowship. During this time he became fascinated by the varied and often bizarre flora of the peninsula, an interest that continues as a focus of his research. Since 1996, when he became Curator of Botany at the San Diego Natural History Museum, he has concentrated on building research ties between the museum and scientific institutions in Baja California and Baja California Sur.

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A NEW-TO-US FLOWERING SUCCULENT

BY BETTY NEWTON

THE TALL SLENDER STEMS wave gently in the breeze almost two feet above the plant. The blue-gray stems—way too long for the ordinary plant—seem lightly covered with chalk, but the eye-catcher, even from a distance, is those cups of dark, bright purple-pink. You see it, but you do not quite believe what you see because you do not remember ever seeing this plant before.

I know from whom I got my plant (Jeanine De Hart) and roughly with whom I have shared it (students in one or two drought-resistant plant classes), but I do not really know its name. Well, yes, it is “Calandrinia”, Jeanine told me. And I can remember that because I heard the syllable much like “grin” in it and hung on for dear life! “CalanDRINia.”

I shall share what I do know of this excellent plant, but I am still identifying it. I do not yet know the species (or second or specific) name, so to show what I am thinking would be like pouring a pile of

rubber bands out in front of you. Even when I really care, it can take me over two years to identify an unfamiliar plant. I have learned the point is to *try*. Eventually the adjectives and the plants’ appearance will mesh and you’ll say, “Yes, that is it!”, but until that



time you are in no man’s land. If you know the species of this plant, please write *California Garden* to let me know.

Let us just be thankful for this succulent that seems to get called “rock purslane” or “redmaids” and is in the portulaca family. My plant in a 20-inch terra cotta, shallow bowl. It hangs down 10 inches beyond the pot. Though some of my reading (possibly describing another species) says the flower only opens in direct sun and blooms in summer, this *Calandrinia* with 3-inch grey rosettes often blooms in late fall, even November. And it definitely makes a pretty scene under two Japanese black pines where it gets appreciable shade. When I read this genus is native to four different continents, I know I have not pinned mine down yet.

Long life and wide sharing to the pretty new succulent among us!□

Betty Newton, a longtime adult education teacher, is presenting her landscaping class beginning January 8th, see page 5. Photographs by the author.



CACTUS EXPERT: TOM DE MERRITT

BY WILLIAM MORFELD

Tom De Merritt is a long standing member of the San Diego Cactus and Succulent Society (SDCSS) and an effective spokesman for it. In this interview he describes many of his activities and interests.

WM Please describe the development of your remarkable interest and activities in the field of cactus, Tom.

TDM I grew up in Phoenix and moved to San Diego thirty years ago when I was fifteen. I've been gardening and growing things since I was about eight years old. For me it's purely a hobby. I have no financial interest in it. It's strictly an enjoyment for me and my wife Laura, who also has held official roles in the San Diego Cactus and Succulent Society (SDCSS). I've been a board member and president.

WM It's apparent at the meetings, that the members regard your opinions as authoritative. How does this happen? Did you major in botany?

TDM I'm an electrical engineer. Although I have a long history with the organization, I am not the most knowledgeable. On the other hand, I do have perhaps the deepest background in some aspects of the culture.

WM You're not a professional botanist then?

TDM No, not a professional—but, an amateur botanist. I've done soil studies, and worked along the lines of many professional botanists including the writing of papers that are available on the Society's website (www.sdcss.com). As a collateral interest, I collect botany books.

WM What botany books do you find most useful for the beginner?

TDM *Succulents, The Illustrated Dictionary* by Maurizio Sajeva and Mariangela Costanzo might be a good start for succulent enthusiasts; then *The Cactus Family* by Edward Anderson for cactus lovers; and the newest, *Cacti*, by Clive Innes and Charles Glass. Unfortunately, few cactus books are generalist books. Instead, they tend to focus on different groups of cactus and as such are rather narrow in scope. As a matter of fact, succulent enthusiasts outnumber their cactus counterparts by two to one. So, books often choose between one or the other of these divisions and many times by region, too.

WM You say that succulent enthusiasts outnumber cactus counterparts two to one; is this true also of the San Diego Cactus and Succulent Society (SDCSS)?

TDM Absolutely. For example, at our shows you will notice that the succulent entries are most numerous. A

point worth noting is that all cactus plants are succulents but not all succulents are cactus. Cactus, which are harder to grow require very specific climates and soils. They have evolved to exist in certain niches, whereas succulents have much broader distributions and grow in a wider range of environments. Perhaps this explains in part the enthusiast proportions.

WM What other properties distinguish cactus?

TDM Cactus require certain soil contents and pH values. The greatest challenge for cactus growers is to emulate these specific conditions. Cactus are not herbaceous plants and therefore require different growing conditions. For example, unlike herbaceous plants they prefer alkaline over acidic soils, and mineral rich soils over nitrogen based ones. They are definitely harder to grow. Cactus will always have a dormancy period, but not all herbaceous plants are like that. Many people are not used to not watering their plants during the heat of the summer, but to water a cactus at this time would be detrimental. Cactus are the most newly evolved plants and in that regard they are the fastest changing plants. They are still evolving in order to exist where other things cannot. Almost always they are found in harsh environments, but they are nevertheless very fragile and grow in a narrow range of conditions. When something new is introduced into those conditions, such as domesticated animals, they can be wiped out quickly.

WM It appears that conservationist restrictions are more severe in respect of cactus.

TDM They really have to be. The plants will not recycle themselves. Once uprooted or destroyed, it may take centuries for the growth to reestablish itself. Many plants are very, very old. Once their environment is damaged, even if only by something as simple as an off road vehicle whose tracks rechannel rain water, the population often dies. Then too, many plants can't be reestablished because repotting soil can't emulate the original mix satisfactorily. Thus the plants can't be domesticated and always perish. For example, I have yet to see any transplanted cactus taken from Anza-Borrego Desert survive long term.

WM How do you acquire your plants then? Your garden is magnificent.

TDM The best way is by seed. The joy of growing is

greater this way. Also, when grown by seed, the plant is much more tolerant of the environment in a way that a transplant can never be: the wild plant is already acclimated to the wild environment. The cellular structure of the wild plant is already formed by the specific soil that nurtured it. Perhaps a scientist might be able to replicate conditions exactly, but as a practical matter it just doesn't work. Furthermore, even the weather, rainfall, and air flow will be different. Arizona cactus, which expect summer monsoon rains, don't get these rains in California. Even if California growers compensated for this, chlorinated water is not the same as rainwater and will make a difference in the growing.

WM *Well then, is the scientific interest as expressed by conservation the predominant one for SDCSS?*

TDM We always promote conservation, we never sell collected plants. SDCSS is involved with the San Diego Wild Animal Park. SDCSS established the Baja garden at the Wild Animal Park sixteen years ago and still maintains the garden today. It has just now matured to the point where it is being considered as a world class garden. We are not just a social club, but have a great interest in promoting horticulture, conservation, and education. We also work on preserving collections for public spaces. For example, we are currently working on relocating a private ceroid collection from Bakersfield to Balboa Park. Ceroids are tall columnar cactus and because they grow large and are difficult to move, they're nonexistent in grouped gardens. They present special problems that we are considering.

WM *Can you name other world class gardens in the Southwest?*

TDM There are about a dozen and many are in California. Not all are widely known.

WM *Name the top five, if you will.*

TDM Okay, the top cactus collection in the United States is located in the Huntington Gardens. It is the largest and the best. Next would be Lotusland in Montecito, however visitation is restricted. As a point of interest Lotusland's cycad collection is probably the largest and most valuable in the world.

WM *So, Lotusland is a standout in virtue of having superb collections of the oldest and the newest plants?*

TDM That's right. Then, the next garden that should be mentioned is the garden at the Getty Museum. Rancho Arboles in Claremont, California is also wonderful. The Desert Museum garden in Tucson is beautiful and so is the garden in Papago Park in Phoenix.

WM *It seems reasonable to suppose that scientific interest would be concentrated in the natural growth areas of cactus, such as the Southwestern United*

States, but are there other places as well?

TDM The Western Europeans are very keen on succulents, and are fascinated with cactus. There is interest in Russia and Czechoslovakia, too. The plant culture exists throughout Europe despite the fact that cactus is exclusively endemic to the New World. Still, San Diego has the largest number of cactus growers in the United States.

WM *In what way do different collecting specialties develop?*

TDM Generally, growers begin with a range of plants. Then the grower begins to concentrate on a genus with which he is experiencing good results. Next, he begins collecting that genus. It's easier to study within a particular genus rather than an entire family. Over time, these growers become experts in the genus they focus on. That's what I've done. People tend to like things they have success with. Also, many people grow certain species for their color and the flowers they produce. One of our members, Phil Favel, collects aloes. He has over 300 of the 350 known species of aloes in an acre garden. It's quite a collection.

WM *Do you have specialties?*

TDM I like *Rebutias*, *Lithops*, *Haworthias*, *Sulcorebutia*, *Adenium*, and *Cyphostemma*.

WM *My, that's a formidable sounding list. Most garden plants have an easier naming system. Can you clarify cactus taxonomy for us?*

TDM Taxonomy with cactus and succulents is constantly changing. Classification has always been done by plant and flower structure, but that's changing a lot now as well. Much splitting and lumping is done by research writers in an effort to elevate the importance of their papers. Happily a better set of rules is evolving. DNA analysis is now being done, and this will surely reduce some of the arbitrariness currently in the system.

WM *What are the useful medicinal, nutritional or industrial applications of cactus?*

TDM There are several. Rows of cactus can be used as natural barriers. Liquor is made from agaves. Opuntias produce fruits and jams, and they are now being researched as a therapy for diabetes. New growth pads are used as a vegetable. However, most of the applications remain to be discovered. The research is still young. Most of the plants do not grow in sufficient quantity to yield a large harvestable crop, but if their compounds are found beneficial, they can be synthesized for medicinal use.

WM *Thank you very much for this enlightening interview, Tom.* □

William Morfeld is a retired investment banker and an occasional contributor to the magazine.

THE GREAT STINKHORN PATCH®

BY GAYLE EARLY

IT IS A GOOD thing the lights went out at the San Diego Floral Association's library in Balboa Park. A venerable associate there was expressing concern about the new computer with online access, wondering if a filter (you know—to prevent downloading *that* kind of stuff) should be installed. I was just about to continue my research on the fungus *Phallus impudicus*—that's Latin for impudent or shameless phallus, otherwise known as the Common Stinkhorn—and I'm afraid I would have been immediately driven out had the electricity not suddenly failed.

Ever heard of a stinkhorn? I am a novice gardener, yet in the space of my first growing season I managed to create a monster—a stinkhorn member of the Phallales order, that is. It took some sleuthing to uncover the identity of this creature and its dubious pedigree.

Professor Wayne P. Anderson, of Palomar College, describes a stinkhorn on his website. "This fungus begins as an egglike body beneath the soil. An erect phalluslike stalk breaks through the 'egg,' forming a cuplike basal volva as the stalk rapidly elongates. The swollen 'head' or cap is covered with a black, putrid, mucilaginous mass of spore slime." Shocking visuals are included.

Makes you want to grow one?

It all began innocently as a lettuce patch in a south-facing, six-by-three-foot raised brick bed out behind our garden shed. I believe that bed had not been touched for many years, until we moved onto the property in the Mt. Helix area a year ago. The over sixty-year-old wood shed wall would absorb winter sunlight and help warm the earth my husband had amended with topsoil from a local nursery, a hearty helping of home-baked compost, and, oh yes, some rotted steer manure. I later noticed wood chips lying in the soil and copious small leaves blown in from the trees, but I'm assuming nothing *else* was in there lying fallow. That bed promised such a rich first gardening experience.

I flung down packets of black-seeded Simpson, romaine, and gourmet lettuces, naively wondering what seeds would take. (They all did.) My four-year-old daughter had insisted on planting corn, so we plunked in a row in the back, interspersed by carrots, tarragon, marigolds (to ward off aphids) and—what the heck? I thought I would throw in a row of green beans in the middle, some onions in the front, even dropped in some cantaloupe seeds recycled from breakfast to see what would happen there.

We mostly thinned by eating the baby lettuces. I was not a hardened gardener yet and found it wrenching to pull the little plants, even in an overcrowded garden. My two-year-old daughter, Megan, had no such qualms, so lettuces toward the front of the bed found more breathing room as the winter months grew into spring. Of course I overwatered. I figured lettuces were thirsty plants, especially competitive ones. In spring I fertilized.

Those spaces my daughter liberated in the front were where I first noticed strange clawlike points protruding through the soil. I stopped in my tracks, watering wand frozen midair. Something smelled rank.

My first thought was bad gopher karma—had this been a hapless rodent digging skyward for its last carrot, only to meet death by coagulation, thanks to the bait (a house-warming present) my husband had dropped into our well-tunneled property? I probed the claws with my spade and saw they had popped through clumps of little white sacs in the soil.

Then I noticed something standing among old lettuce stumps I should have pulled after harvesting the leaves. It was long, pink, and had a bloodish dark red tip swarming with flies. I drew back, choking at the smell.

A few lettuces over, a whole cluster of pink organs had emerged, some toppling over amongst each other. Were they intestines? Could that miraculous gopher bait compel coagulated gizzards to explode from the earth?

After taking a few moments to collect myself, I drew forward again. Safely gloved, I extracted a pink organ and noted a hollow cylinder with a spongy surface. I pulled it apart to see a cross-section of what looked like large cell membranes. Looking down onto it, I counted a pentagon of ribs bracing the fluted pink stalk.

I tentatively picked up one of the roundish white sacs and squeezed it. The outer skin crackled off to reveal brownish green organs nested inside a wet, mucous mass. I flung the thing away, fearing I'd snapped open a mouse or bird embryo between my fingers.

That's when I put in my first call to the University of California Cooperative Extension Master Gardener's hotline, having kept the number handy in case of such emergencies. In my message, I tried to sound, well, normal. "I have something freakish bursting through my lettuce patch!"

In a calmer frame of mind, inside the house, I

wondered about the onions I had planted—that egg sac was kind of like a wet, rotted garlic bulb. Had some organism parasitized the onion bulbs and taken over my plant bed, and would it invade the rest of the universe not to mention the rest of my garden?!



Back at the site, I took my hand spade and dug beneath the claw-sacs. A whole series of soft white bulbs tumbled out, attached to each other by tiny white dendritic threads. I yanked up a romaine and found scads of bulbs clustering around its roots. Those scary Jerusalem crickets I occasionally come across had a full-on ball pit to roll in under the soil surface.

Was this growth poisonous? Could I let Megan eat a green bean, or did that monster infect the roots and send some evil toxin up the stalk and into those innocent flower buds? The girls are always grazing on the lettuces—what all did I have them crunching on?

“You probably got some kind of fungus,” said the advisor, calling me back from the Master Gardener’s

hotline. “I don’t know what that thing is you’ve got. You’ve been watering every day?! Stop watering so much!” I made a note not to bother people right before lunch.

Sunset Western Garden Book did not have anything on such a fungus, nor did any other reference in my admittedly meager collection. I scrubbed my hands a la Lady Macbeth and sat down for a bite. I spooned into some yogurt and licked my finger—uggghh! I could *taste* that nasty thing! There might have been a tiny hole in my gardening gloves, but I could swear that smell had permeated even my skin.

After lunch I threw the gloves out, tucked another pair into my back pocket, and wandered around weeding, watering, inspecting. It seemed I could detect that foul scent all over the yard, everywhere. My precious garden had become a den of horror and putrefaction. The smell drew me inexorably back to the patch.

And there! More pink organs rearing their heads! They grew in a matter of hours! My lettuce patch was turning into a B-grade horror flick! They’re baaaa—aackk! Flies were buzzing in and out of slits in the reddish tips like bats in a belfry. I came close to a green bottle fly and it boldly ignored me, crazed and delirious, careless about its life while lolling about in the putrescent nectar.

I shuddered and ran for the wheelbarrow. I decided I had to purge the entire bed of this evil-looking and vile-smelling growth. I shoveled out spadefuls of white balls, from millimeters to inches wide. With some regret, I rooted out every lettuce, hauling out with them every trace of those nasty plants that I could find or smell. Lettuce seems so porous, so filled with water, so vulnerable to alien invasion.

I stopped short of tearing out the green beans (it’s the only vegetable Megan will eat) and the tarragon (it’s finally taken off), and the remaining carrot (the only site where the tops did not get munched to the ground).

The next day—more claws.

I donned the thick gloves and steeled myself for more excavating. I chopped at the topsoil and expunged it of any visible sacs. But there were millions of little white fibers sown throughout the soil substrate.

Learning about this fungus became my mission.

Rosaleen, the librarian at the Floral Association’s horticultural library, directed me to the fungi section. How could I pass up a book called *The Romance of the Fungus World: An Account of Fungus Life in Its*

(continued on page 26)

**SAN DIEGO HISTORICAL SOCIETY
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Friday February 14th thru Sunday February 16th 2003**

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**HISTORIC GARDEN WEEK IN VIRGINIA
April 21-27, 2003**

You are invited to journey with us on a wonderful adventure, a visit to Virginia for Historic Garden Week. This traditional event --now in its 70th year--provides access to dozens of the very best private gardens and historic homes. They are graciously opened to the public, some for the first time, as a part of this unique celebration. This is an extraordinary opportunity. It will be the peak blooming season for endless azaleas, dogwood, and tulips which bedeck roadsides and parkways. The entire state celebrates, but we will confine our activities to that most historic region: Colonial Williamsburg.

Our accommodations will be at a full-service hotel, so you will need to unpack only once. A private motorcoach will be used to explore the nearby areas of Richmond, Jamestown, Yorktown, Norfolk, and those venerable James River plantations.

We will dine at historic taverns, colonial inns, and modern restaurants, while touring homes built in 1640, 1790, and even 1922. There will be sufficient time to stroll the streets of Williamsburg and meet the costumed interpreters who add the perfect ambience to this town, which has been rebuilt to look like it did 200 years ago.

Another bonus is the 90 acres of gardens in Williamsburg itself, where perennials, annuals, biennials, and bulbs display another kind of uprising.

Package includes: Round-trip airfare, 6 nights hotel accommodations, baggage handling for 1 suitcase, all admissions, taxes, gratuities, a full breakfast, and either lunch or dinner daily. Escorted by Helen Gagliardi (619-449-1648). Only \$1,600 sharing double, \$1,835 single. Deposit \$200.

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Now is the Time . . .

A CULTURAL CALENDAR OF CARE FROM OUR AFFILIATES, UC COOPERATIVE EXTENSION, AND *CALIFORNIA GARDEN* STAFF

AFRICAN VIOLETS

Mort Brigadier

NOW IS THE TIME

TO SIMPLY sit back and enjoy our African violets.

TO SEPARATE and repot only if daughter plants are pushing the mother plant up and out of the pot.

TO RETURN those plants that you may have moved during the holidays.

TO EXPERIMENT by wick-watering some plants, bottom-watering others, and top-watering a third group.

TO USE a humidifier for your plants if you heat your home and awaken with a dry throat. It will help maintain suitable moisture.

BEGONIAS

American Begonia Society

NOW IS THE TIME

TO WATCH the watering program; slower growth requires less water. Do not allow to dry out or to become too wet.

TO KEEP plants clean; remove dead leaves and old foliage.

TO START cutting back cane-type and shrub-like types.

TO ADD more planting mix as needed to keep roots covered.

TO SPRAY for mildew.

TO CONTROL slugs, snails, mealybugs, and loopers.

TO START, in February, tuberous types for summer blooms.

BONSAI

San Diego Bonsai Club

NOW IS THE TIME

TO COLLECT native stock in the California region, where permitted. Plant the native trees in a larger

container, not a bonsai pot.

TO GRAFT conifers, deciduous, and evergreen trees.

TO USE lime-sulfur spray on deciduous trees.

TO REDUCE watering if a rainy period.

TO PRUNE fruit-bearing bonsai.

TO WATCH for aphids and other sucking insects; spray accordingly.

TO REMEMBER NOT to fertilize your trees. Allow plants to rest.

TO REST in February to repot and transplant some varieties if weather is favorable.

BROMELIADS

Mary Siemers

NOW IS THE TIME

TO KEEP plants from damage by possible hail. Give them overhead protection such as placing them under trees, shade cloth, or any other suitable material.

TO PROTECT plants from freezing temperatures; keep at least 2 inches above ground and cover with newspapers, sheets, etc. or bring them indoors.

TO BE careful when having plants indoors not to place them in front of a heating vent or in a drafty area.

TO EMPTY water from outdoor plants when it has rained consistently for two or three days. The weight of too much water can cause the leaves to spread apart, affecting the compact form.

TO CUT the frequency of watering during the cooler weather.

TO NOT fertilize until weather begins to warm.

CACTI & SUCCULENTS

Joseph A. Betzler

NOW IS THE TIME

TO REMEMBER to rest winter-dormant plants and keep the winter growers happy. Be careful with water and fertilizer as it gets cold—water in the early part of a sunny day so water will evaporate and fungi will not start easily. If it looks like rain, hold off on the water.

TO PROTECT outside plants from excessive rain if possible. If frost is likely, a little protection with a piece of paper or plastic can save a plant. Many tropical succulents will turn into a mass of soggy pulp if frozen. Remember to remove cover when conditions become more favorable.

TO WATCH new cuttings—they may not root quickly. If you can supply bottom heat you should not have much of a problem.

TO KEEP an eye on the seedlings. Fungi can be a problem at this time. Snails can make a great midnight snack of the seedlings—use some form of snail and slug control if needed.

TO CLEAN up old pots and pick up the last of the old leaves and other debris. You do not want to encourage mice and roof rats. Rodents can make a mess of your prize plants.

TO NOTE those plants you want to propagate the next growing season. Find out how to make new starts. Plan your spring display now.

CALIFORNIA NATIVES

Jeanine De Hart

NOW IS THE TIME

TO CHECK out nurseries that sell natives. Las Pilitas in Escondido has many fine native plants and knowledgeable staff.

TO FINISH planting wildflower seeds. You might consider planting a meadow. If you get it through the first season, you will have repeat blooms each year that we get enough rainfall. You may let it grow naturally amongst the weeds and grass.

TO CHECK for insects and snails around your plants. Remember to weed around your newly planted shrubs and perennials. Natives compete poorly with weeds for vital nutrients.

TO SUPPLEMENT the winter rains with deep, infrequent watering. Remember the key to a drought-tolerant plant is to have the roots go deep. The roots grow during the late fall and winter on most natives. The tops grow during the warmer part of the year.

TO KEEP the area around your natives free of debris that may harbor pests and diseases.

CAMELIAS

Les Baskerville

NOW IS THE TIME

TO FEED iron and gypsum to maintain healthy, green plants, and 0-10-10 or a 2-10-10 fertilizer to encourage better blooms and root development.

TO CONTINUE to disbud certain varieties for better blooms.

TO OBTAIN rootstock for grafting.

TO TRANSPLANT camellias.

TO PRUNE selectively so that blooms will have room to open.

TO BUY plants in bloom. Some plants that do well in San Diego are; **Red**: 'Dr. Clifford Parks', 'Guilio Nuccio', 'Kraemer's Supreme', 'Rudolph'; **Pink**: 'Tiffany', 'Elsie Jury', 'Al Gunn', 'Debutante', 'Valentine Day'; **White**: 'Nuccio's Gem', 'Scentuous' (fragrant); **Variegated**: 'Emma Gaeta Var', 'Adolphe Audusson Special', 'Dixie Knight Supreme', 'Rudolph Var'; **Multi-colored**: 'Margaret Davis'.

DAHLIAS

Abe Janzen

NOW IS THE TIME

TO DIG any tubers left in the ground. By early January the tops should be completely withered. Cut tops just above the ground.

TO STORE tubers without dividing. Store in vermiculite or sand, leaving on the soil that clings to them. Keep in a cool place.

TO INSPECT those tubers stored earlier for any sign of shriveling. If too dry, add a little moisture.

TO START in February to prepare the planting bed. Turn the soil, add humus, and fumigate. Dig in humus and add equal parts of superphosphate and sulfate of potash. Turn over well. Add fertilizer two or three weeks before planting.

TO SPROUT some selected roots in February—these make good cuttings. Bottom heat may be applied to encourage sprouting.

EPIPHYLLUMS

San Diego Epiphyllum Society

NOW IS THE TIME

TO TAKE advantage of beneficial rains. Collect the rainwater for future use. Store in opaque containers to prevent infestation of mosquito larvae and buildup of algae.

TO PROTECT plants from unexpected frost and strong wintery winds.

TO BAIT for snails and slugs.

TO SPRAY insecticides only if necessary. Do not use oil-base types. Use Orthene™, malathion, and Cygon™ available locally. Read and follow directions carefully.

TO PRUNE out dead and unsightly growth, allowing more energy to be used by newer and healthier branches.

TO FEED mature plants with a 0-10-10 fertilizer to promote blooming in spring. Use liquid or slow-release granules. Another application may be necessary in about thirty days.

FERNS

San Diego Fern Society

NOW IS THE TIME

TO SPRAY for aphids, especially maidenhair.

TO WATER gently, but do not soak. On cool nights soaking keeps their feet too cold. Do not rely on rain to find your hidden and covered plants—they may remain dry.

TO TRIM off old fronds in frost free areas.

TO FERTILIZE *Platyceriums* (stag horns) with bone meal, hoof & horn, or high nitrogen liquid.

TO REMOVE and remount *Platycerium* pups.

TO PLANT spores.

TO CHECK for spider mites on the underside of fronds. Mites are very small and may not be seen. Fronds will be silvery on top and start to turn brown. Spray with malathion or miticide.

TO REPOT, rebasket, and divide ferns in frost free areas.

FRUIT TREES AND VINES

Vincent Lazaneo, Hort. Advisor UC Coop Extension
NOW IS THE TIME

TO FINISH pruning dormant deciduous trees and vines before leaf buds start to grow.

TO PRUNE evergreens just before or when new growth begins.

TO SPRAY dormant deciduous trees and vines with horticultural oil before buds begin to open to control overwintering insect pests.

TO SPRAY dormant peach and nectarine trees with a fungicide such as lime sulfur (calcium polysulfide) before buds begin to open to control leaf curl.

TO PLANT dormant bare-root trees and vines.

TO PAINT the trunks with whitewash to protect the bark from sunburn injury.

TO PROVIDE frost protection for young citrus and other subtropical fruit trees.

FUCHSIAS

San Diego Fuchsia Society

NOW IS THE TIME

TO PRUNE fuchsias severely if not done in the fall.

TO CLEAN up all leaves and other trash in baskets, pots, and around ground plants.

TO SPRAY remaining foliage and ground to eradicate pests that may winter over.

TO KEEP plants moist but not wet.

TO FEED with a good fertilizer—fish (10-5-5) or a slow release type. These can be used for your year-round feeding.

TO USE insecticides or fungicides if there is a problem.

HERBS

John Noble

NOW IS THE TIME

TO BREATHE in deeply the fragrance of your herb garden, during or after a winter rain.

TO PLANT seeds of winter-flowering herbs — calendula, borage, nasturtium.

TO PRUNE back winter deciduous shrubs and trees — ginkgo, vitex, lemon verbena.

TO WEED around and give space to any struggling herbs.

TO AMEND the soil throughout the garden.

TO BREW fresh tea with your backyard herbs — mints, dandelion, thyme, sage.

TO APPRECIATE and use our native herbs — black sage, white sage, sagebrush, yerba santa.

TO BAKE a fresh loaf of rosemary-flavored bread.

IRIS

San Diego-Imperial County Iris Society

NOW IS THE TIME

TO KEEP old brown fans off the tall bearded. Good ground cleaning and spraying is helpful in pest control.

TO MAKE last plantings of bulbous irises for spring bloom.

TO WATCH watering, if rains are light. Rhizomes should not be allowed to dry out.

TO START a regular spraying program with copper oil to help control rust.

TO START in February to feed all irises with 0-10-10 liquid fertilizer. Follow directions carefully and do not over fertilize.

ORCHIDS

Charley Fouquette

NOW IS THE TIME

TO CHECK the moisture in pots of outdoor-growing orchids including *Cymbidiums* under cover. Protect them from cold rains and possible hail damage.

TO CONTINUE to stake new spikes on *Phalaenopsis* and *Cymbidiums*. Do not rotate plant once spike has started.

TO FEED with a low-nitrogen-high-phosphorus fertilizer on *Cymbidiums* and an even 18-18-18 on *Phalaenopsis*, *Vandas*, and *Ascocentrums*. Remember, when the days are over 75 degrees these plants are active and some in the vandacious alliance are very heavy feeders.

TO KEEP nobile-type *Dendrobiums* on the dry side through the winter. When the buds start to swell in the spring, then you can resume a normal water and fertilizer sequence.

TO MAINTAIN antelope type *Dendrobiums* (evergreen) like *Phalaenopsis*. They require warmth. The flower spikes will come from the top leaf axils most of the time.

TO WATER early in the morning so the plants will be dry by nightfall.

TO REMEMBER the fertilizer requirements of orchids are minuscule compared to other branches of the plant kingdom. Trace minerals such as calcium, magnesium (Epsom Salts), copper, and boron can benefit most orchids. These can be found in the

complete fertilizers available at local nurseries. It is often more useful to feed quarter-strength at each watering as it makes nutrients available up to five times more often.

TO WATCH for little creepy crawlies. Slugs, snails, scale, mealy bug, whitefly, etc. These may show activity on warm days. Contact your local orchid nursery for the latest and safest pest deterrent.

TO ALWAYS be aware of possible weather changes that would conflict with your successful orchid growing.

PELARGONIUMS

Carol Roller

NOW IS THE TIME

TO WATER thoroughly when plants become somewhat dry. Allow the excess water to drain away. Keep foliage as dry as possible. Relocate potted plants if there is prolonged rain.

TO CONTINUE feeding with a complete fertilizer. If soilless mix is used, a fertilizer with micronutrients is needed. Use at less than the recommended rate as often as needed to avoid nutrient deficiencies.

TO CONTINUE a pest control and disease prevention program. Use all products according to the manufacturers' instructions.

TO PRUNE any plants that have not been cut back. At least one green leaf should remain on stems of regals, scented, and similar types. Lanky plants, which were previously pruned, can be cut back to produce compact plants. Tip pinch plants that were pruned in the fall.

TO MAKE cuttings from the prunings. Shelter the cuttings from extreme weather. Placing them in a warm location will produce roots more rapidly.

TO PROTECT plants from freezing. Temporary coverings may be used.

TO CONTINUE to rotate plants to keep them well shaped.

PLUMERIA

Southern California Plumeria Society

NOW IS THE TIME

TO PREPARE for spring start up.

TO MOVE your *Plumeria* to a full-sun area after the last frost.

TO BEGIN watering moderately until leaf development begins (1-2 inches). Do not use catch basins under your pots.

TO WATER and feed when leaves are 2-3 inches long with a low-nitrogen fertilizer such as a 6-10-10.

TO TAKE cuttings before leaf development. Wait until April to plant.

TO TRANSPLANT using a well-drained soil mix.

ROSES

Marianne Truby

NOW IS THE TIME

TO MAINTAIN a complete calendar of procedures you follow in preparing/maintaining/feeding your roses. The work you do now is the basis of your success or failure in the rose garden.

TO STRIP any foliage remaining on your bushes and rake and clean up the beds. If you have given your bushes dormant spray in late December, you will be wise to repeat it, weather permitting. This will do a lot to prevent overwintering spores of mildew and rust. Roses grown away from other plants are easier to maintain as they require a regular routine of feeding, watering, and cleanliness. Many problems can be controlled by hosing them off early in the morning.

TO PLANT new bushes in holes you prepared earlier. If planting a new rose as a replacement, you will be well advised to supplement the planting mix with soil taken from another area of the garden, along with superphosphate at the bottom of the hole. If the weather is hot and dry, mound soil or mulch up around the canes and keep damp with frequent sprinkling.

TO PRUNE established hybrid teas mid-January through Valentine's Day. Attend the demonstrations of your local garden clubs held in municipal rose gardens to observe pruning practices and share information with participating members.

TO FEED new plants with liquid fertilizer when bushes have a full set of leaves. These new bushes may be the first to bloom and after verifying you have the correct plant, break off the bloom leaving the new growth intact.

TO APPLY rose food to established bushes in early February. A cup of alfalfa meal or pellets worked into the drip basin will help get your bushes off to a good start. Frequent small feedings will produce continuous blooms and beautiful roses throughout the year.

TO MAINTAIN moisture level at all times by filling your water basins at least twice a week.

TO WATCH for the first signs of aphids on the new growth and knock them off with a strong stream of water from the hose. They are lazy and will take a few days to climb back up.

TO CONTROL mildew by washing off foliage in the early morning or spray weekly with a fungicide.

TO FINGER PRUNE when multiple buds break on the canes, leaving only the strongest to promote strong growth.

TO MAINTAIN a clear area around your bushes to discourage rust fungus, which will show up on the undersides of the leaves when present. Keep infected leaves picked off and dispose of in closed containers.

NOW IS THE TIME TO PRUNE ROSES!

If you missed the presentations provided at various sites where volunteers demonstrate recommended pruning practices, you may wish to visit after the event to observe the result.

Roses grown here in Southern California achieve bushes of a size that is unusual and unknown to many new residents from other areas where winter weather destroys many bushes and replacement yearly is required. Hard to imagine, when here many rosarians have grown the same bushes for twenty-five to thirty years.

Pruning will help keep the plant under control. Many roses will become extremely large if allowed unlimited growth. Pruning will renew the growth and result in abundant bloom. The best growth comes from basal growth—that new cane that came directly from the graft union. Because our roses seldom go naturally dormant here, pruning and defoliation provide a shock to spur the process and give the plant the natural rest it needs.

The usual rule of thumb is to remove $\frac{1}{3}$ to $\frac{1}{2}$ of the growth of an established bush. If you have a bush that is only one year old and did not grow a lot, you may want to prune it only lightly or even not at all.

Suckers, growth from below the bud union, must be removed clean to the bud union. This is probably the rule most ignored by new rosarians. This will produce blooms unlike the ones you want and if left on the bush will frequently take over—resulting in bushes that once produced pink or yellow flowers producing red blooms.

Lack of rainfall during the past year should encourage you to deep water your bushes (beds) several times during this period of rest to cleanse the beds of salt build-up that occurs during the growing period. Such soil amendments as superphosphate, iron, epsom salts, and gypsum may be added at this time. Wait a few weeks until new growth is actually started before adding rose foods.

I avoid products that profess to curtail pests along with giving nutrients to the bush. Ammonium sulfate is great—for keeping your lawns green!

Remember—there is no RIGHT way to grow roses! If what you are doing is working for you—do not change!

VEGETABLES

Vincent Lazaneo, Hort. Advisor UC Coop Extension
NOW IS THE TIME

TO CONTINUE planting cool-season vegetables that are not likely to be damaged by frost. Cool-season vegetables include broccoli, brussels sprouts, beets,

cabbage, carrots, cauliflower, endive, kale, kohlrabi, lettuce, peas, potatoes (white), radish, rutabaga, and turnip.

TO USE floating row cover fabric on seeded and transplanted crops to accelerate their growth.

TO PLANT dormant crowns of artichoke, asparagus, and rhubarb.

TO PLANT seeds of medium-day-length onions such as 'White Sweet Spanish', 'Stockton Yellow Globe', and 'Italian Red' (short storage life) during February for bulbs in late summer.

TO ORDER seeds of warm season vegetables for planting in the spring.

VEGETABLES, ANNUALS

from UC Cooperative Extension Publications
NOW IS ONE OF THE BETTER TIMES IN FROST-FREE AREAS

TO PUT IN TRANSPLANTS OF: broccoli, cabbage, cauliflower, and lettuce — Chinese forget-me-not (*Cynoglossum amabile*), cineraria, fairy primrose (*Primula malacoides*), garden stock (*Matthiola incana*), pansy, pink sand verbenia, pot marigold (*Calendula*), snapdragon, and viola.

TO PUT IN SEEDS OF: beet, carrot, chard, kale, kohlrabi, lettuce, onion (green and dry), parsnip, spinach, and turnip — baby blue eyes, candytuft, China asters, Chinese forget-me-not, coleus, delphinium, dianthus, forget-me-not, hollyhock, impatiens, lobelia, petunia, poppies, scabiosa, sweet alyssum, and Virginia stock (*Malcolmia maritima*).

NOW IS THE TIME

John R. Allen, Now Is the Time Editor

TO COME to the next meeting. As the New Year begins, we are all working hard to plan interesting meetings. There is a new format and lots of great ideas. Come and share yours, say hi to some old friends, and meet some new ones while you're here.

TO BRING a fragrant flower, a colorful bouquet, or an interesting plant.

TO JOIN us for the wonderful presentations that are planned.

TO REMEMBER that this is a volunteer-based organization. Without your active participation, there is no San Diego Floral Association.

TO HELP us make SDFa the organization you would like it to be. We can't do it without you.

Warmest wishes for the New Year, let's make it the most enjoyable one yet. I look forward to meeting all of you soon.

Sincerely, John R. Allen

THE GREATEST WEED OF THEM ALL®

BY PAT PAWLOWSKI

WHAT'S TO LOVE ABOUT a weed?

Lots. First, we must recall that a weed is a member of the plant kingdom. And we know (or we should, anyway) that without our vegetative friends—weeds included—we, as members of the animal kingdom, would not even be here. Plants provide us with oxygen, which is a byproduct of that all-important photosynthesis thing that they do. (At this point, you might remark: "Well, as I live and breathe!")

Indeed.

Anyway, besides contributing air for us to breathe, weeds display other commendable attributes, such as:

Nutritional value: Pokeweed (*Phytolacca americana*), also known as polk salad, is a wild green eaten in the South. Who can ever forget the lyrical passage "Polk salad Annie, the gators got your granny" from a 60s hit song sung by Tony Joe White?

Liquid refreshment value: Dandelion wine made from the plant *Taraxacum officinale* is said to be very good.

Medical value: Mustard (*Brassica* spp.), made into a plaster, is used to cure congested chests.

Wild bird food: Tarweed (*Madia* spp.) seeds are eaten by songbirds and game birds. Doveweed (*Eremocarpus setigerus*) feeds the dandy California quail.

Forage value: Black medick (*Medicago lupulina*) provides fodder and serves as a cover crop too.

Book title value: Scarlet pimpernel (*Anagallis arvensis*) lends its name to a novel and several cinematic creations.

Flavoring value: Horehound (*Marrubium vulgare*) is used commercially to flavor horrible-tasting candy and cough drops.

THE BEST OF THE BEST

However, when all is said and done, there is one weed that stands above all the rest: Milkweed (*Asclepias* spp.) Here is why: This so-called "weed" is the larval food plant for the monarch (*Danaus plexippus*), a royal member of the gorgeous group of beings known as butterflies. In addition, certain milkweed species are attractive and helpful additions to the garden, and efforts have been made to utilize commercially the milky sap and seed fluff produced by the plants.

But, first, back to butterflies.

To those who have so far successfully avoided reading my previous articles about butterflies: Too bad for you, it's too late to back out now. You have already

invested several minutes of your time reading this, so you might as well stick it out.

Here is the butterfly life cycle: egg, caterpillar, chrysalis, adult butterfly. The adult monarch female, after mating, will seek out a milkweed plant upon which she will lay her eggs. No other plants will do; only those in the milkweed family. After the egg hatches into a minute caterpillar or larva, it snacks on milkweed leaves until it grows into a handsome specimen with yellow, black, and white stripes with twirly little antenna-like appendages on each end. After a few weeks it attaches itself to a sturdy surface where it turns into a chrysalis, a beautiful jade-colored oval trimmed in gold. It hangs out for a week or two and emerges as a monarch butterfly. As an adult, it never eats plant material; instead, it sips nectar from flowers such as lantana, butterfly bush, and aster.



Bloodflower milkweed, *Asclepias curassavica*, and monarch caterpillar, photo by Bill Howell

To attract the most monarchs, the nimble-witted butterfly gardener will include nectar plants for the adults and milkweed for the caterpillar stage.

THE WONDERFUL WORLD OF MILKWEED

In the continental U.S., there are many species of milkweed; but most of them, including San Diego native kinds, are dormant during cool seasons. Some exotic species do, however, grow during our winter season. Since monarchs typically visit San Diego to “overwinter” along the coast (they arrive in the fall and depart in late winter or early spring, depending upon the temperature), it makes sense to plant several different kinds. Arriving monarchs heading toward coastal sites like UCSD, Camp Pendleton, or Presidio Park might stop by your garden to sample bloodflower milkweed (*Asclepias curassavica*), and maybe even lay some eggs. Bloodflower milkweed, which originated in Neotropical America, does not go dormant. Departing monarchs may visit natives such as narrow-leaf milkweed (*A. fascicularis*) and Indian milkweed (*A. eriocarpa*), which should be emerging as the weather warms. Remember, since monarch caterpillars can subsist on milkweed leaves, the plants don’t have to be in flower.

Here are a few that best suit our area, and are also easy to grow:

THE EXOTICS

(1) Arizona milkweed (*Asclepias angustifolia*) naturally occurs in Arizona. Unlike the two-footed *Homo sapiens* Zonie migrants that magically appear in summer, Arizona milkweed will be happy to stay in your California yard year-round. All you need do is cut them back when they get too leggy (don’t try this with the *Homo sapiens* variety) and they bush out again. The flowers of Arizona milkweed are very dainty and of a pearly whitish color with a hint of pink. The leaves are about one or two inches long, medium green, and are very slender. The whole plant has a willowy aspect and reaches two to three feet. The only drawback is that it is hard to come by; I bought a plant from Buena Creek Gardens in San Marcos some years ago, but haven’t been able to locate any Arizona milkweed since.

(2) Bloodflower milkweed (*Asclepias curassavica*) is much easier to find. Several local nurseries such as City Farmers in San Diego usually carry it. An excellent source of milkweed is The Monarch Program, an organization in Encinitas that operates a butterfly house, butterfly museum and classroom. In fact, according to David Marriott, executive director of the Monarch Program, bloodflower milkweed is the milkweed of choice in the monarch butterfly set. (Another variety, *A. tuberosa*, commonly known as butterfly weed, is offered in some nurseries but has a shorter blooming period and



***Asclepias curassavica* ‘Silky Gold’,**

bloodflower milkweed, photo by Pat Pawlowski

is not as vigorous.) Most importantly, monarchs generally prefer to lay their eggs on the more tender leaves of bloodflower milkweed.

The name bloodflower, coined by one who must have been colorblind, suggests that the flowers are the color of blood. Actually, the 2- to 3-inch flowers sport benevolent orange-red and yellow hues. A bloodflower cultivar called ‘Silky Gold’ has flowers in shades of luminous gold.

The Monarch Program sells *A. curassavica* most of the year. During the winter season, plant sales and visits to the butterfly house must be made by appointment only (call 760-944-7113).

Other milkweeds include swan milkweed (*A. fruticosa*); goose milkweed (*A. physocarpa*); and swamp milkweed (*A. incarnata*). You might be able to see some of these growing at Quail Botanical Gardens.

THE NATIVES

(1) Narrow-leaf milkweed (*A. fascicularis*) is one of the best natives to grow. According to David Marriott,

the nectar contained in the summer-blooming white flowers of narrow-leaf attracts a host of interesting, benevolent insects. And Valerie Phillips of Las Pilitas Nursery has seen lacewings (beneficial bugs par excellence) lay eggs on narrow-leaf.



Narrow-leaf milkweed, *Asclepias fascicularis*, and guest, photo by Bill Howell

Where bugs go, so go birds. Bird-watchers will appreciate the increase of songbirds due to—dare I say it?—the ecological balance and varied insect menu created just by letting milkweeds grow in the garden. Am I milking this subject too much? The only way to attract butterflies successfully is to forgo pesticides and go for beneficial insects. The bennies will keep the baddies at bay. Bennies love all kinds of weeds, by the way, so you can cut back on the weeding chores if you are so inclined. And remember: No pesticides!

(2) Indian milkweed (*A. eriocarpa*) displays cream-colored flowers and apparently has a thing for oak trees. Marriott has discovered it growing happily around live oak trees amongst the oak duff. However, don't despair if you lack an oak tree; buy some Indian milkweed and

take a gamble that it will grow in your garden.

Other native milkweeds include California milkweed (*A. californica*), desert milkweed (*A. erosa*) and rush milkweed (*A. subulata*). All go dormant for a while but will return when they feel like it. Las Pilitas Nursery in Escondido is an excellent source for native milkweeds.

WEEDS OF WONDER

Many other types of milkweed may do well in the yard; it might be fun to try to locate them. Or, not. It depends on your outlook.

Speaking of an outlook—look out, there's a weed! But what variety of weed? There are many kinds out there that you could learn to tolerate, at least.

And if it's a milkweed—you've got to love it. □

Text copyright by Pat Pawlowski, who is a writer/lecturer and the wildlife garden designer for Animated Gardens, 619-390-9399.

ROOTING AFRICAN VIOLET BLOSSOMS

BY BARBARA CONRAD

WE ARE SO USED to starting new African violet (*Saintpaulia*) plants by setting down leaves. Have you ever considered starting a plant by rooting blossoms? It's not difficult! However, you can only root from a blossom having two tiny "wing" leaves coming out the sides of the blossom stem. These wings may only grow to be ½ inch or less.

Start by cutting the blossom off above the wing leaves. Trim the stem below the wing leaves to about 1½". Select the smallest container possible, such as a plastic sauce container from a takeout restaurant. Put a small amount of perlite in the bottom of the container and fill, using a damp mixture of perlite and vermiculite with a tiny bit of charcoal (a soilless mixture for starting plants). Put a hole into the mixture with a pencil and lower the entire stem, so that the wing leaves are barely above the potting mixture. Gently firm the mixture around the stem. Place the plant and the pot into a plastic sandwich bag, held shut with a twistie tie. Apply warm water with an eyedropper as needed to keep the mixture damp. Roots and then leaves will develop between one and two months. Why not try your hand at rooting a blossom stem? □

Barbara Conrad is president of the Carlsbad African Violet Club.



Book Reviews

CARNIVOROUS PLANTS OF THE UNITED STATES AND CANADA

Donald E. Schell

Portland, Timber Press, 2002, 468 pages, 200 color photos, 7 line drawings, 27 maps, 6" x 9", hardcover, \$39.95

What grows best in boggy, mineral-depleted soil? Green plants that thrive on insects, of course. There are at least forty-five "carnivorous" species, plus numerous hybrids, whose adaptability to otherwise unpromising growing conditions includes their ability to entrap, digest, and absorb nutrients from creatures that share their habitat. At the same time, there are some insects whose features protect them from the tentacles of carnivorous plants and whose life cycle is actually promoted within the plant fluids that break down and absorb other insects.

This book is an expanded version of a 1976 volume that apparently brought to light a large body of interest in its subject. Since that time, knowledge of the classification, identification, physiology, and ecology of carnivorous plants has expanded, enabling the author to provide more detailed information. This he has done, with clearly written chapters that begin with the history and characteristics of these mysterious plants, their habitats and prey, and a finely detailed description of their many ways of capturing their prey.

Color photos of the leaves that are the plants' entrapment mechanisms are among the two hundred such images that illustrate the book; views of plants flowering in the wild are deceptively lovely . . . it's easy to see how bugs are attracted to them! Line drawings and maps also augment the text, which primarily focuses on the many varieties, commonly known as pitcher plants, sundews, butterworts, and bladderworts. Most are native to portions of the southeastern and/or northwestern portions of the United States, but not to Southern California. However, the author provides complete information on how to cultivate in greenhouses, in pots, or other contrived bog-like situations.

To this reader, the anatomical details of the plants were the most fascinating part of the book. As with most plants, every aspect fits a specific purpose, but these are truly among the most bizarre.

Reviewed by Marge Howard-Jones

WATER GARDENS: A Practical Step-by-Step Guide Yvonne Rees and Neil Sutherland

North Pomfret, Vt., Trafalgar Square Publishing, 2002, 140 pages, 300 color photos and diagrams, 9" x 10", hardcover, \$22.95

Water gardens are back in style, and this handsome book shows and tells everything you need to know about them. The large format, with many color photos and diagrams, seemingly answers any question that would arise in planning and constructing a water garden.

Rees's experience in water garden design and installation shows in the simple organization of the book. From the basics of selecting the style and site of the water garden to preparation and plant selection, each short section offers descriptions and illustrations that literally leave no stone unturned.

Setting up a water pump and installing a fountain and water filter are explained in detail, with photos of every required part. The selection of marginal plants to grow at varying levels is fully explored as is the opportunity for moisture loving plants to grow nearby. Water lilies, large and small, are presented with an eye to their possible problems as well as their beauty.

Further detailed instructions follow in the "Projects" part of the book, in which the reader can learn how to add waterfalls or build a small raised pond or bog garden in a variety of containers. This section also provides detailed instructions for the actual planting of water lilies and "marginals" as well as novelty water features of a small but simple design. The final section includes instruction for maintaining a healthy water garden. Methods for insuring clean water, trimming water lily rootstocks, and propagating aquatic plants by cuttings or root division are clearly demonstrated. The book concludes with a plant identifier, alphabetically organized, with a photo for each plant description.

Gardeners seeking to follow Beverley Nichol's insistence on at least one water feature in a garden will find this book the perfect guide.

Reviewed by Marge Howard-Jones

THE PROTEA BOOK: A Guide to Cultivated Proteaceae Lewis J. Matthews

Portland, Timber Press, 2002, 184 pages, 286 color photos, 7" x 10", softcover, \$34.95

I opened the book and fell in love. There on page 10 was the *Leucadendron* 'Safari Sunset', red-blushed leaf bracts in its winter "rainbow" stage cupping a creamy center where the dainty flowering cone sits. As soon as I saw it, I knew I had to have it in my yard, even if it meant digging blooming plants out to make room!

The book with its beautiful photos and layman's text weaves an exquisite spell of anticipation. From "Introduction" to "Identification" it lures the reader into exploring a family of plants that includes such well-known and diverse species as the king protea, the pincushion, and the macadamia nut. Having aroused curiosity, the book

tempts the reader to discover further if protea can be grown in the home garden. With clear advice on cultivation and recommendations on landscape use, the book fascinates the reader into believing that raising protea may not be as difficult as it is reputed to be.

After arming the reader with five basic planting requirements, the book incites passion to acquire the protea of one's dreams and fans excitement with 139 pages of straightforward descriptions and fabulous photos of spectacular looking flowers and foliage. Unfortunately, having aroused interest to climax pitch, the book leaves the reader flat and frustrated when a search for buying sources reveals none.

Lack of protea sources aside, the book certainly fulfills the fantasies of an armchair gardener. More importantly, it encourages those readers who crave more active fulfillment into growing protea themselves. But whatever the level of fulfillment, this book of visual sorcery definitely casts its spell of magic by inspiring belief that anyone can be a successful protea grower.

Reviewed by Leanne Cook

CLEMATIS: The Genus

Christopher Grey-Wilson

Portland, Timber Press, 2002, 224 pages, 100 color photos, hardcover, \$39.95

Today, increasingly, no garden is complete without some examples of the genus *Clematis*. Christopher Grey-Wilson has written the most comprehensive study of the genus ever undertaken in English. He lays this reference book out in three main sections: Cultivation, Botany, and Classification.

In the cultivation section the author provides advice on plant selection and follows up the information needed to grow and care for these wonderful plants. Tips on matters such as propagation, pruning, pests, and diseases are given as well in this section. The botany section provides as good understanding of the plant parts and the photos in the classification section will have you wanting one of each variety shown.

This book is another one written with the gardener as well as the horticulturist and botanist in mind. It is a very comprehensive reference book. I know that after you read it, I will be meeting you at the nursery in the *Clematis* section.

Reviewed by Susie Heap

CLIVIAS

Harold Koopowitz

Portland, Timber Press, 2002, 384 pages, 3 charts, 118 color photos, 6" x 9", hardcover, \$34.95

Harold Koopowitz, a professor of Ecology at U.C. Irvine, has written a practical, highly readable, comprehensive, and charming book on the history and biology of *Clivias*. Delightful tales of *Clivia* lovers throughout history add spice to the book.

The book was written with the gardener as well as the horticulturist and botanist in mind. A large portion of the book is devoted to an in-depth exploration of the different

variations of *Clivias*. Profuse information on *Clivia* cultivation, color, and breeding is found within the book's pages.

Koopowitz writes that the expansion of the British Empire in the nineteenth century made many regions of the world open to exploration. Natural history became a passion and obtaining collections of tropical plants became fashionable among the rich and famous. Importation of South African plants with strap-shaped leaves, thought to be a form of *Agapanthus*, was the rage. However, when one of these plants bloomed, it was seen not to be so. As happenstance would have it, Lady Charlotte Clive, the former governess of Queen Victoria, had the first plant to bloom. It became known as *Clivia nobilis* in her honor.

Today, the passion continues with breeders chasing more novel colors and forms of the plant. Among connoisseurs the "new" yellow *clivias* we gardeners treasure are becoming passe and new pink and pastel *Clivias* are now fashionable. "Can a mystical white *Clivia* be only whispered about?"

Reviewed by Susie Heap

GARDEN OPEN TOMORROW

Beverly Nichols

Portland, Timber Press, 2002, 286 pages, numerous line drawings, 5½" x 8", hardcover, \$24.95

Fast on the heels of the reissue of *Garden Open Today*, we have its sequel, originally published in 1968. Nichols, a prolific writer of fiction, non-fiction, and several autobiographies, continues to charm in his distinctly British manner, discussing gardens and plants along with anything else that happens to come into his fertile mind. The world he describes, a somewhat aristocratic but modest country life, may seem almost fictional in the light of contemporary culture, but he's still a very good read. Full of opinions and humor, Nichols' main theme is his life long love of gardening.

With a well-established audience at hand, the author regales us with his life as a gardener, a garden writer and lecturer, and companion of most of the garden notables of his day. Many of the challenges he faces, such as chalk soil and highly intemperate weather, are conditions specific to the British Isles, but his take on environmental concerns and encroaching urbanism have a more universal ring. Also to be mentioned are the habits and antics of his two quite ancient cats.

All, and more, are grist for Nichols' mill, expanding to include eccentric persons of his acquaintance and experiences that, no matter how dreadful they may have been in reality, come forth on these pages as incidents of high comedy. The true import of serious subjects stays just below the surface, allowing the reader to enjoy the fun, unaware for the moment of the possibility of seeds of concern being planted. The tone is light throughout, embellished with the fanciful illustrations original to the first publication. They, like the text, create a sense of joyful gardening in a time just recently gone by but probably lost forever.

Reviewed by Marge Howard-Jones

Numerous Guises, Both Real and Imaginary (Rolfe and Rolfe, 1925)? I was finally reassured to meet my phalloid members in print.

Phallus impudicus, that shameless one, was the easiest stinkhorn to find in the literature, being such a show-off. I found it under the heading of "Evil Smell" in the *Romance* book:

"And there's fungus there which, when you touch it, sends out a smell enough to make a strong man faint" (citing from E. Phillip Oppenheim's thriller, *The Great Impersonation*).

The *Romance* authors note it was probably the "odour" emitted by this stinkhorn that inspired Tennyson, in his poem *Gareth and Lynette*, when he wrote the passage describing Lynette's contempt for Gareth, for she behaved:

....As one
That smells a
foul-flesh'd agaric in
the holt,

And deems it
carrion of some
woodland thing,

Or shrew, or
weasel, nipt her
slender nose

With petulant thumb and finger, shrilling,
'Hence!'

I found it difficult to nail down my particular fungus among the array of stinkhorn fungi I came across, even after rifling through the stacks at local public libraries. As entertaining as *Phallus impudicus* was to read about, he was not my guy. For one, my fungus had less of a distinct solid head, or cap, at the top, and more like a pointy tip with openings. The mucus looked blood reddish rather than dark greenish or black. I pored through the whole line-up of stinkhorn family portraits.

Beyond the family Phallaceae, the tropical and ornate stinkhorn family Clathraceae seemed promising, with the *Lysurus* and *Mutinus* genuses evoking similar fascination and disgust. My fellow looked a cross between these latter two.

A few mornings later I checked on my mystery patch and found several stalks attempting to pole through the dirt, but clearly, the party was over. They were not as robust as when surrounded by dying lettuces or when I had regularly drenched their wood chips and other fungi edibles. I spaded a few survivors into a Baggie and headed up to the County of San Diego's Department of Agriculture.

"Cool!" Pat Nolan, Supervising Plant Pathologist, immediately recognized stinkhorns in the mass. She stuck her fingers right into the soil and teased out one of the pink stalks. The stem fell apart easily in her hands.



She sifted through the egg sacs.

"I usually see *Phallus hadriani* around here, but this is a different one." She then retrieved her mushroom bible, David Arora's *Mushrooms Demystified*, and narrowed my search to one of *Phallus impudicus*'s kinfolk, *Lysurus mokusin*—an amazing feat, considering my frangible, dirt-coated sample.

"Are they poisonous?"

"No. Some people eat them—but I wouldn't." She was referring to the egg sacs. Since the fruiting bodies don't stink at the egg stage, some intrepid gastronomes fry them right up. Indeed, one fellow wrote, "The eggs of *Phallus* and *Mutinus* are said to be very good when fried properly, but my recollection of the odor of the plant has been too vivid for me to try them" (Miron Hard, in *Mushrooms, Edible & Otherwise*).

Says another of *Mutinus caninus*, the Dog

Stinkhorn, "The plant has not the mal-odor of its relations, but is not pleasant. In the egg shape it is gelatinous, tenacious, rather firm, edible and good when sliced and fried" (McIlvaine & Macadam, in *One Thousand American Fungi*).

I read that stinkhorn eggs are still commonly eaten in parts of Europe and may be found in local markets. "More commonly they are picked or incorporated into sausages and frequently sold described as truffles" (from Dickinson & Lucas, *The Encyclopedia of Mushrooms*).

Other sources in the literature say stinkhorn eggs are *inedible*, but they stop short of calling them poisonous. Perhaps "inedible" is their delicate way of saying that only the most eccentric of epicures or mislead of tourists would eat that stuff.

"How do I get rid of them?" I asked Nolan.

"You don't. Water less."

Lysurus mokusini is known as the lantern stinkhorn. The lantern stinkhorn (assuming this is my guy) lurks more in the recesses of fungal literature, although it is known to pop up here in Southern California soil.

In the lantern stinkhorn, vertical slits in the tip produce the stinky, slimy spore mass ("smells like fresh dog feces," writes Professor Anderson). Green bottle flies, blowflies, and flesh flies are attracted to the stench. They can strip the slime in a couple hours, disseminating the spores on their legs or in their droppings.

The powerful stench obviates the need for any structural integrity in the stalk—flies are attracted to the job pronto. Stinkhorn members are free to collapse shortly after dispatching their seed.

To this day, I'm not sure which or if all of my novice gardening techniques nurtured my great stinkhorn patch. My fungus is a *saprophyte*, apparently, something that lives on dead and decaying remains. Is it a carrion fungus? A dung saprophyte? I saw scads of white fibers digesting the wood chips in the soil. The fungi could have been happy munching on those alone. All they needed from me was a nice long drink of water.

My fears of the mysterious organism taking over the universe were not too far off. Mycologists (those who live to study fungi) call the slender tubular threads *hyphae*—a mass of them bundled together is referred to as a *mycelium*. Professor Anderson writes, "Under optimal conditions the hyphae often grow very rapidly and...if all the hyphae produced in a single day by a single soil fungus were laid end to end, they could extend for nearly a mile." Makes for a gregarious bunch of little rascals in a confined lettuce patch.

Stinkhorns descend from the great Kingdom of Fungi, thus being neither plants nor animals. They're in

the phylum Basidiomycota (Latin for "little pedestal"), commonly known as the club-shaped fungi; and in the class Gasteromycetes (Greek *gaster* means "stomach" and *mycetes* means "fungus") because the spores grow internally. Mushrooms you find on your dinner table are typically in the class Ascomycetes.

Like little potatoes growing on underground tubers, fruiting bodies, "eggs," form from those mycelial threads. Inside the egg, the spore mass is called the *gleba*. Those clawlike fingernail things I saw are the *hymenial* part of the *gleba*, perforating the rind, or *peridium*, of the sac.

Inside the egg, the spongy stem tissue is all there, fully compressed, then bang! The tissue absorbs water from an outer jelly layer surrounding the embryonic fruiting body and thrusts the *gleba* inches high into the air, trusting insects and slugs to take care of the rest.

Unlike other mushrooms that disperse their spores forcibly, and typically through the air, the stinkhorns set themselves up for reproduction by liquefying and stinking up their spores. It is only until it hits the air that the *gleba* changes chemically to form the malodorous slime.

The author David Arora is a tireless defender of fungi and their critical role in decomposition. "Stinkhorns are among the most fascinating and highly specialized of the fleshy fungi," he writes.

Apparently, they intrigued Charles Darwin's daughter, Etty, who hunted them down in the woods, following her nose, of course. She would "throw their carcasses into a collecting basket," her niece reports, and then burn them quickly in the fire at home so as not to offend the morals of the maids.

The stinkhorns inevitably would have their place in folklore and myth. I read that *Phallus impudicus* eggs were believed to be witches or devil's eggs. German hunters believed stinkhorns grew where stags had rutted. The fetid growths were associated with evil spirits and black magic.

Stinkhorns have been used as ingredients for love potions and aphrodisiacs in the Far East. They were incorporated in ointments for curing gout and treating maladies such as rheumatism and epilepsy. (Don't try this at home.) Stinkhorns may still be fed to cattle in some parts of the world to improve bovine fertility.

The stinkhorn capability that really bowled me over, though, comes from that flashy impudent one: Believe it or not, *Phallus impudicus* produces radiations that can penetrate a cardboard box and activate a photographic plate contained inside.

As to stinkhorns' rapid growth, the *Romance* authors noted that one investigator sat in the living room

with his wife and observed a *Phallus impudicus* grow about six or eight inches in two or three hours.

"For the curious and the insensitive, the stinkhorn can provide an interesting mycological party trick," write Dickinson and Lucas, in *The Encyclopedia of Mushrooms*. They suggest collecting some unhatched eggs, as they "... can be induced to develop in captivity. Place them on a nest of moist absorbent paper or sand in the bottom of a clear glass jar. Preferably a jar with a good airtight seal. If incubated in a warm room, the egg will usually hatch within a couple of days and the fascinating expansion of the fruiting body can be observed at first hand." There's one for the dinner table.

Those wishing to indulge their prurient inclinations can see pictures of stinkhorn fungi at <http://waynesword.palomar.edu/ww0504.htm#stink>. (Download at your own risk.) *The Genera of Fungi* (by F. E. Clements, 1964), in the central public library, has a good picture of the lantern stinkhorn as well.

Phallus hadriani, if you're curious or have had visitations, has the typical stinkhorn structure of a spongy stem emerging from an egg. The egg is purplish-pink instead of white. At the top of the stem is a ridged and pitted, thimble-like cap, the spore-slime olive green. This stinkhorn is alleged to have a sweet-smelling slime, like that of violets. That's hard to believe, but perhaps some of you have grown some and can verify this. You can view pictures of this one on www.mykoweb.com.

In 1564, the oldest writing on a specific species on fungi comes from one Dutch botanist named Aadrian DeJonghe. He Latinized his name to Hadrianus Junius, hence *Phallus hadriani*. He has the dubious honor of having his noble mug posted on a website, decorated with a shocking backdrop of his favorite phalloid fungus. If the filter is not yet installed in the horticultural library, you can indulge your purely horticultural interests at www.collectivesource.com/hadrianus/. □

©2002 by Gayle Early, who is a former technical writer and editor, and is currently a full-time mom and novice gardener. www.geary@cox.net



Phalaenopsis



PHALAENOPSIS ORCHID CULTURE

BY CHARLEY FOUQUETTE

By November, *Phalaenopsis* should be on their way to flower initiation. Once you see a spike start at the base of the plant, it should have flowers in about ninety days. Increase light to about 1500 foot-candles by any means (shade cloth removal, etc.). Where *Phalaenopsis* are native the weather is clear, the temperatures drop, and it is relatively dry. In October, we should lower the night temperature to fifty-five degrees (+/-). In November, we should maintain high light and increase night temperature to 62-65 degrees minimum.

The first week of November, water with nonfertilized water to flush salts, etc. from the pot. The next three weeks, use Epsom salts in solution, 4 lbs. Mix with 5 gallons of water used in a Hozon proportioner @ 16 to 1. This will give the plants the magnesium sulfate they need for good flower color. The first week of December, flush again with clear water. The next three weeks feed a high phosphorus fertilizer to help flower production and turgidity. In January, you should be back on a normal fertilizer routine of 20-20-20 plus mineral supplements. As temperatures get warmer, decrease light to 1000 foot-candles and maintain good air movement at all times.

If you neglected to do the October through December tasks at listed times, you can catch up in January and February.

For more information on orchid culture, contact Charley at Fouquette Orchids, or your local chapter of the Orchid Society (see Affiliates listed at back of magazine). □



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CALIFORNIA NATIVE PLANT SOCIETY

SAN DIEGO CHAPTER 619-685-7321

3rd Tue - 7:30 pm, Casa del Prado

LAKE HODGES NATIVE PLANT CLUB

Pres: Yolanda Fleet 760-745-1219
4th Mon - 2:00 pm - Rancho Bernardo

Library (new), 2nd floor

ORCHID

SAN DIEGO COUNTY CYMBIDIUM SOCIETY

A BRANCH OF THE CYMBIDIUM SOCIETY OF

AMERICA, INC.

Pres: Wade Bogren 858-243-2502
3rd Wed - 7:00 pm, Carlsbad Women's Club

SAN DIEGO COUNTY ORCHID SOCIETY

Pres: Gary Pierwola 619-426-9108
E-mail: keikiman@aol.com

1st Tues - 7:30 pm, Casa del Prado

ORGANIC

BONITA ORGANIC GARDEN CLUB

Pres: Mary McMahon 619-422-4017
4th Tue - 7:00 pm, Bonita Valley Baptist Church

EXCEPT Aug & Dec

PLUMERIA

SOUTHERN CALIFORNIA PLUMERIA SOCIETY

Pres: Ken Ames 619-443-4795
4th Sun - 1:00 pm-3:00 pm, Feb thru Oct

Casa del Prado, Room 104

Information: Ken Ames 858-454-5475

E-mail: kenasplumeria@aol.com

ROSE

EAST COUNTY ROSE SOCIETY

Pres: Roger English 619-582-3794
1st Sun - 2:00 pm, except Jul & Aug

Gardens of Members

SAN DIEGO ROSE SOCIETY

Pres: Steve Berry 619-235-0004
4th Mon - 7:30 pm, Casa del Prado

EXCEPT Jul & Aug

TREES

PEOPLE FOR TREES

Contact: Pat Stevenson 619-222-TREE
FAX: 619-223-8733

E-mail: adoglover1@juno.com

WATER GARDEN

SOUTHERN CALIFORNIA WATER GARDEN

SOCIETY

President: Ed Simpson 760-436-3704
3rd Sun - Apr thru Oct

Website: groups.yahoo.com/group/sdwatergarden

E-mail: dc@pondplants.com

Call for meeting information.

AFFILIATES:

Send changes to: Lynn Beyerle, Affiliates

Editor, *California Garden*, 1650 El Prado

#105, San Diego CA 92101-1622. Call

619-232-5762.

E-mail: membership@sdfloreal.org

Deadline for Mar-Apr issue: Jan 15, 2003

Are you aware that each affiliate group is

entitled to a **free** advertisement once each

year? It should be "camera ready" (suitable

to be sent to printer). The text should be

enclosed in a border. The border must be

included when measuring dimensions,

which are to be 3.5 (3½) inches wide by

2.25 (2¼) inches high. If done on a

computer, please use a font that does not

resemble typewriting.



COASTAL SAGE

GARDENING
GIFTS & SUPPLY

3685 VOLTAIRE
619-223-5229

Share in the Joy of Learning

www.BOTANYFORKIDS.com www.INHARMONYHERBS.com

SAN DIEGO COUNTY ORCHID SOCIETY

NOW is the time to join! Learn how easy and fun it is to grow orchids. Meet the experts through society activities including lectures, tours, open houses, and classes.

The society meets the first Tuesday of every month at Casa del Prado in Balboa Park. Cultural classes start at 6:30 p.m. in the library, followed by the regular meeting at 7:30 p.m. in room 101. Refreshments, orchid display, and an orchid raffle follow the meeting.

All this and a great monthly newsletter for only \$10.00 (single membership) or \$12.50 (dual membership) per year. Don't delay, make your check out today to the SDCOS and mail to:



Vivian Follmer
SDCOS Membership
13127 Roundup
San Diego, CA 92129
(619) 538-6187



Dear Subscriber,

Please assist our nonprofit organization in keeping down expenses by sending your change of address to us. USPS charges to notify us of an incorrect address are high, also, this service may soon be discontinued.

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San Diego Floral Association, 1650 El Prado,
San Diego, CA 92101-1622 [in Casa del Prado, Balboa Park]

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Pascua Farms & Nursery

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We offer a wide variety of Specialty Plants, Fresh Fruits, Herbs, and Veggies.
Fresh and Dried Floral Material as well. All picked to order and Pesticide free.
Hours may vary, feel free to call for an appointment.
We are located between Cottonwood and Singing Hills
just east of Hillsdale Rd. in Rancho San Diego.



WALTER ANDERSEN NURSERY

OPEN 7 DAYS
A WEEK

3642 Enterprise Street
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8:00 A.M. TO
5:00 P.M.

(619) 224-8271

FREE GARDEN CLASSES
9:00 A.M. SATURDAY MORNINGS

San Diego Horticultural Society

4th Annual San Diego Horticultural Society Gala

Preview to the Spring Home/Garden Show

Thursday, Feb. 27, 6:00 p.m.

Members: \$80. Non-members: \$90

(\$15 higher after Feb. 10th)

- ☆ The Horticultural Event of the Year!
- ☆ Be first to see the gardens of the Spring Home/Garden Show
- ☆ Celebrate Horticulturist of the Year *Pat Welsh*
- ☆ Be first to learn the winners of the Garden Master Awards
- ☆ Enjoy a sumptuous buffet dinner and live music
- ☆ Mingle with the garden masters, judges, & terrific San Diego horticulturists
- ☆ Win wonderful items in our Opportunity Drawing
- ☆ Wander at your leisure without the crowds

Information: (760) 522-6611 or gala@sdhortsoc.org

Enjoy the fun at this year's Expanded

Spring Home/Garden Show

Feb. 28, March 1 & 2

San Diego County Fairgrounds, Del Mar

*Includes Gardens on Display, Huge Plant Sale,
Standard Flower Show, & kids garden activities!*

Details at www.sdhortsoc.org
Or (858) 756-2579



Meetings 2nd Monday of every month, 6:30pm

Free Admission – Everyone Welcome!

Surfside Race Place

San Diego County Fairgrounds, Del Mar

Join us for a guest speaker, plant sales, plant display.

Meetings are open to all. Membership brings you:

- ☞ Monthly 26-page newsletter
- ☞ Seed & plant swap
- ☞ Trips to outstanding gardens
- ☞ Video and book library
- ☞ Local garden tours
- ☞ Annual Garden Party

Upcoming Meetings & Events:

Jan. 13: San Diego Dreaming – A Mediterranean Garden in Vancouver

Enjoy a fascinating talk by Thomas Hobbs, author of *Shocking Beauty*, about his world-famous garden of exciting exotic plants in Vancouver, British Columbia.

Feb. 10: Bromeliads for San Diego

Jeffrey Kent, of Kent's Bromeliad Nursery, presents a slide talk on bromeliads especially suited for our growing conditions.

Mar. 10: Special Speaker Dan Hinkley

Spend a special evening with the founder of renowned Heronswood Nursery as he talks about plant collecting in Chile, Turkey, Vietnam, and Nepal. [admission fee for this special event]

Info: www.sdhortsoc.org
or (858) 756-2579

CALIFORNIA GARDEN (USPS 0084-020)

San Diego Floral Association, Inc.

1650 El Prado #105

San Diego CA 92101-1622 USA

PERIODICALS POSTAGE